

REMARKS

The Examiner's comments together with the cited references have been carefully studied. Favorable reconsideration in view of the foregoing amendments and following remarks is respectfully requested.

Claims 1-20 are pending in the application. The Examiner has rejected claims 1 – 20 under 35 U.S.C. 102(b) as being anticipated by Tamura (6,382,125). In addition, the Examiner has rejected claims 1 – 20 under 35 U.S.C. 102(e) as being anticipated by Paton et. al. (6,536,370).

Applicants take the position neither of these references reads on the claimed invention. To the contrary, each supports the need for the inventive matter described in the instant application. Neither patent provides a solution to the problem associated with one indicator. For a number of fungible goods, the goods are sensitive to decomposition associated with long-term storage. These goods are also sensitive to high temperature, which can rapidly cause product degradation. This rapid degradation can often be managed if the goods are moved to a less harsh environment. The goods that a consumer uses are exposed to an uncontrolled environment of varying temperature and humidity. There exists a need to help the consumer recognize that these deleterious conditions can shorten the effective lifetime of the goods. The instant application provides at least two indicators to help the consumer manage this performance using at least one cumulative time-temperature indicator and at least one thermal event marker.

A rejection under 35 USC 102(b) must be removed when the prior art teaches away from the claimed invention. One fungible good is silver halide film as described in the instant application. Another is produce including, for example, vegetables as noted by Tamura (col 6, lines 62-67 and col 7, lines 1-22). However, Tamura teaches away from the need for a thermal event marker (col 8, lines 9-26). He reports on previous art that had a glass transition temperature at 10C. For such material exposed to warmer outside air, "color development proceeds even if the temperature control material is exposed to the outside temperature for only several minutes during the transportation of the goods. In contrast to this, when the glass transition temperature of the temperature indicating material in this embodiment is set to 44.5C, the temperature indicating material is not so affected by the outside temperature. That is, when the glass transition temperature of the temperature indicator is set to 44.5C as in this embodiment, the temperature indicator does not develop a color in the normal time upon loading into and unloading from a truck and a situation that temperature control cannot be carried out can be prevented without

fail.” Thus Tamura teaches away from the use of a thermal event marker. The implication is that if the temperature indicator of Tamura’s invention responds to this thermal event, then it is consumed (color development occurs) and the temperature indicator is no longer good for control. This is a common problem with use of only one type of indicator, whether it is a thermal event marker or a cumulative time-temperature indicator. When the single indicator is consumed, it can no longer be used as an indicator of the remaining function. We recognized this dilemma and invented an article of manufacture that can overcome it.

To maintain a rejection under 35 USC 102(e) each element of the recited claim must be found in the prior art. Claims 1 and 11 have been amended to further distinguish the invention. In claims 1 and 11 the cumulative time-temperature indicator and the thermal event indicator are amended to recite irreversible indicators. As discussed below, Paton does not teach irreversible indicators as implemented and claimed in the instant application.

Paton presents a different problem than described by Tamura. Paton teaches the use of a material sensitive to a specific agent present in a controlled environment. This controlled environment is has very narrow temperature and relative humidity changes as noted in Paton where the temperature does not vary by more than about 5C and the humidity does not vary by more than about 5% (Please see claim 1). The problem faced in the instant application is the management of a fungible good in an uncontrolled environment, an environment related to consumer usage of the good. Additionally, Paton describes use of an agent specific substance that can reversibly change. For example, col 5, line 1-4, Paton describes use of cobalt chloride as a moisture (relative humidity) sensor. “A pink colored cobalt chloride can be regenerated by driving off the absorbed moisture thereby causing the salt to revert back to the first readable blue color and resetting the timer.” This may be useful in the controlled environment of a clean room but not for consumer usage where the temperature and the humidity can vary sharply. For a cumulative time-temperature indicator or a thermal event maker to be useful to the consumer, the changes each undergoes must be irreversible. An indicator that reversibly changes in response to the uncontrolled environment provides no credible information with respect to the performance capability of a fungible good.

As recited in amended independent claims 1 and 11 the cumulative time-temperature indicator and the thermal event indicator are irreversible indicators. This is supported on page 8, lines 17 – 26.

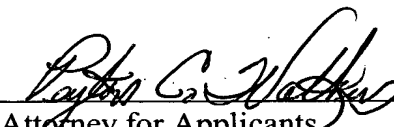
Thermal event indicator 40 should not reversibly change with temperature. For instance, if film is moved from a hot environment that met or exceeded the threshold exposure temperature of the film and the thermal event indicator 40 changed in density, the thermal event indicator 40 should record and retain that temperature. The cumulative time-temperature indicator 30 helps the consumer appraise the longevity of the film's peak performance when the film has been exposed to aggressive thermal environments. The thermal event indicator 40, on the other hand, helps the consumer appraise the continued utility of the film, when thermal exposure of the film to abusive temperature conditions as might occur when the film is stored in an automobile has occurred.

Applicants have reviewed the prior art made of record and believe that singly or in any suitable combination, they do not render Applicants' claimed invention unpatentable.

In view of the foregoing remarks and amendment, the claims 1 - 20 are now deemed allowable and such favorable action is courteously solicited.

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

Respectfully submitted,


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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.